Paradox, Natural Mathematics, Relativity and Twentieth-Century Ideas JOHN RYSKAMP — We are enjoying a renaissance in the historiography of set theory which allows us to pinpoint the effect of Poincare's writing on the development of Einstein as an advocate of natural mathematics (what he called practical geometry). I will briefly describe the importance of Garciadiego's landmark work on Russell (1992), and Grattan-Guinness' epic recounting of the history of set theory (2000). I will present something for which historians of physics have searched but have not previously identified: the precise step at which Einstein incorporated practical geometry into his formulation of the relativitity of simultaneity. This leads to a troubling conclusion, at least for those who look to relativity for internal consistency. However, the trouble is not restricted to physics. We suggest that natural mathematics finds its way into the major twentieth-century ideas.

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